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# EFFECTS OF PARENT INTERVENTIONS ON CHILDREN WITH COMMUNICATION DISORDERS

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EFFECTS OF PARENT INTERVENTIONS ON CHILDREN WITH  
COMMUNICATION DISORDERS

by

Whitney Michelle Stephens

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A Research Paper  
Submitted in Partial Fulfillment of the Requirements for  
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EFFECTS OF PARENT INTERVENTIONS ON CHILDREN WITH  
COMMUNICATION DISORDERS

By

Whitney Stephens

A Research Paper Submitted in Partial

Fulfillment of the Requirements

for the Degree of

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in the field of Communication Disorders and Sciences

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Parents and speech-language pathologists (SLPs) are two separate entities; however, parental involvement in therapy intervention allow the two forces to become intertwined to better serve the child with a communication disorder. Both parents and SLPs play a crucial role in the language development of a child with a communication disorder. There are many structured and unstructured ways to implement parent involvement during therapy.

The term language facilitator refers to an individual who provides communication support and development to individuals with a communication need ("Beginnings for parents, n.d."). The role of a language facilitator can be occupied by both SLPs and parents. Parents and SLPs can provide the support and create a functional language rich environment to enhance communication development. Not all parents are conscious of the appropriate strategies language facilitation entails; therefore, parent intervention programs were created to provide training to the parents on how to become successful language facilitators. Although research does not state which specific intervention program for parents is the best, there is research that suggests which parent intervention programs has demonstrated the greatest effect with certain

populations. It is important to be familiar with and distinguish which parent intervention programs are tailored to and most positively affect specific client and parent needs.

The importance of including the family with the client and of involving parents in their children's intervention is now widely accepted as best practice in the field of speech language pathology ("It takes two", 2011). Recent laws now require parent involvement in the planning and implementation of early intervention services. For example, in Part C of the Individuals with Disabilities Education Act (IDEA) congress establishes recognition of early intervention programs that assist in enhancing child's development and maximizing families' abilities to meet their child's needs (Individuals with Disabilities Education Improvement Act of 2004). The legislation specifies that the cooperation of the family is an essential aspect to obtain the most effective communication with the child. The legislation also states that early intervention disciplines serve the entire family as a whole entity, not solely the child. Family and parent involvement in early intervention services also aid in bridging the gap of communication between parent and child with a communication disorder; which in turn allows

the families to build better relationships with their children (MacDonald & Carroll, 1992). Parents often fail to see the significance of daily interactions with their child and the natural teaching that occurs. Once parents are aware of their role as a communication partner, they take on an increasingly different role in their child's communication process (MacDonald & Carroll, 1992).

A growing awareness of the need for early communication that directly involve parents in the developmental process has lead for parent intervention programs to be implemented (MacDonald & Carroll, 1992). Children can learn socialization through communication and imitation via parents through each interpersonal contact (MacDonald & Carroll, 1992). Early intervention programs for parents focus on recognition and understanding of their child's communication and reduction of parents' control in conversation. Providing training for parents early may help develop the foundation for successful communication.

Before a SLP selects which program to implement, several variables must be considered. First, variables that influence parents' ability to facilitate communication may impede parent participation and/or function in the program. Second, variables to consider

when selecting an intervention is an important step a SLP must investigate. Lastly, variables that determine which intervention program is functionally the most appropriate not only for the parent but for the child.

### **Variables Affecting Facilitators**

In designing or remediating parent intervention programs, the plethora of possible communication disorders that children present translates to a variety of different communication needs including expressive language, social communication, and use of alternative and augmentative communication. At this time, it is impractical to develop a unique parent intervention program specifically for each individual communication disorder. Aside from the structure of the parent intervention program, it is also important to consider the potential culture biases in the approaches utilized in the program.

In intervention programs, parents are "taught interaction strategies shown in research to encourage children's communication behavior and, consequently, their communication development" (van Kleeck, 1994, p.68). However, the strategies and goals formalized in these programs are often based from many assumptions. Therefore, the goals reflect "underlying-values and beliefs" that are not shared by all groups of people (van Kleeck, 1994,



p.68). "Parent programs focused on interaction rest on culturally determined practices regarding social organization that impact on both how and with whom interaction with young children occurs" (van Kleeck, 1994, p.68). It should be noted that cross-culturally, verbal skills are not valued of equal importance. Cultures differ in their attitude regarding the amount of talk, the role of teaching children language, and the role of knowledge displayed in the child's verbal skills (van Kleeck, 1994).

An additional factor that needs to be considered in designing or remediating parent intervention programs is the feasibility of participation by families from low socio-economic status (SES). Parents that are from low SES may be characterized by "limited use of language strategies known to facilitate young children's language development" (O'Neil-Pirozzi, 2006, p.279).

In a study of interaction patterns of 16 mothers who were of low SES with their preschool children during game-playing and book reading activities, mother's use of facilitating language utterances was less than 50% (O'Neil-Pirozzi, 2006). Compared to those parents of higher SES, lower SES parents tend to have a smaller vocabulary, ask fewer questions, direct the conversation, and overall talk less (O'Neil-Pirozzi, 2009).

Many people who reside in low SES households are of the non-dominant culture, to which the distinct "influences of poverty vs. culture on parents'" (van Kleeck, 1994, p.77) are not well researched. This in turn makes it difficult to provide an adequate parent intervention program taking into consideration not only the influences of the parent(s) culture/SES but also the communication disorder presented by the child.

The field of SLP must share the belief that language is a "cultural-phenomenon, both reflecting and transmitting deeply held cultural beliefs" (van Kleeck, 1994, p.77). It is apparent that current parent intervention programs do not match the interaction patterns from families of diverse cultural groups.

### **Variables Affecting Intervention Selection**

The majority of the parent intervention programs are not etiology-specific. It is important to keep in mind that not all programs are suitable for every family. A parent could have a multitude of uncontrolled variables that would affect his/her participation in the program. For example, a parent with a sensory disorder such as a hearing loss, might not be able to respond to a child's verbalizations without a visual prompt. A case history of

the parent(s) involved is recommended when determining the proper program to implement.

In addition to obtaining a case history, additional steps are necessary prior to selecting a specific parent-led intervention program. First, it is important for the SLP to determine the efficacy of the program ("It takes two", 2011). Efficacy can be determined by studying or comparing outcomes of previous studies implementing the intervention, determining the validity and reliability of the outcomes, and whether or not the outcomes are long term. Additionally, the SLP must also be conscious of how the intervention is implemented ("It takes two", 2011). This may require additional training or materials the speech-language pathologist must obtain prior to administering the intervention.

It is the aim of the SLP to assist children in maximizing their communication skills by creating a functional communication environment, as well as, play an active and independent role in conversation (Pennington, Thomson, James, Martin, & McNally, 2009). For example, teaching the children how to begin and end conversations or how to express themselves in a wide variety of ways can enable children to communicate wants/needs and information efficiently (Pennington et al., 2009). Including parents

in the intervention introducing conversation development creates a more functional communication environment for the child to learn. Specific programs that facilitate parent involvement have been discussed in the literature related to early intervention.

### **The Ecological Model**

A theoretical model for implementing a parent-training program is the ecological model. The ecological model is based on the thesis that "children can learn to interact and communicate in each interpersonal contact" (MacDonald and Carroll, 1992, p.42). The ecological model also suggests that children learn best by being active in conversational learning than reactive. Children are considered active when they take responsibility for initiating communication exchanges. Children with communication disorders often assume a passive role because of their limitations, which in turn limits their ability to communicate (MacDonald & Carroll, 1992). For children to be successful at communication, it is imperative that they engage habitually with partners whose communication style facilitates natural learning (Macdonald and Carroll, 1992).

The Ecological model supports five styles of parent interaction with the child: balance, match, responsiveness, nondirectiveness, and emotional attachment. The styles are flexible and enable the communication partner to utilize the same style as the child's language becomes more complex (MacDonald & Carroll, 1992).

The first interaction style, balance, is a reciprocal exchange during which the communication by each partner influences the other (MacDonald & Carroll, 1992). Each partner contributes equally for the next exchange to occur. These balanced relationships allow the child to contribute in sharing the control and content of the interaction (MacDonald & Carroll, 1992).

The second interaction style, match, refers to "a more developed person acting and communicating in ways the less developed person can perform, and in ways that relate the meaningfully to the child's immediate experiences" (MacDonald & Carroll, 1992, p.43). When using match, the parents' behavior and communication is similar to that of the child but in turn provides a more advanced model for the child. This interaction increases the likelihood that the child will remain actively engaged in the conversation (MacDonald & Carroll, 1992). The primary concept for matching is that when an adult recognizes and comprehends

a child's thoughts, communication preferences, and interests, the child will be motivated to learn through those interactions (MacDonald & Carroll, 1992). When parents "mismatch" a child from performing above the child's communication ability, the child loses interest in the interaction and neglects an opportunity to learn with the parent. Carroll states parents can build a matched partnership with their child by "responding to movements with similar movements, respond to sounds with similar sounds and add a simple word, and respond to a word with one or two words as though translating the child's meanings into adult language and extending the child's ideas briefly" (MacDonald & Carroll, 1992, 43).

The third interaction style, responsiveness, refers to "parents respond to the child's subtle developmental steps so that the children will pursue those steps themselves" (MacDonald & Carroll, 1992, p.44). A uniting feature for social and communication development is that the child learns best when the learning is focused on child's current experiences and understanding rather than the parents' choices or ideas (MacDonald & Carroll, 1992).

The fourth interaction style, nondirectiveness, reflects the principal that children learn more when they have direct control of the interaction. This interaction

style gives the child the opportunity to respond in their own way according to their own preferences. Too much parent driven direction can also decrease the interactions naturalness. Parents are encouraged to limit their questions and commands, increase wait time for child to respond, keep the child interested for more than one turn, use motivating comments, and allow child to communicate from their experiences (MacDonald & Carroll, 1992).

The fifth and final interaction style in the ecological model, emotional attachment, is the idea that the parent and child achieve "emotional understanding of each other when their actions are reciprocal and sensitive" (MacDonald & Carroll, 1992, p.46). When both the child and the parent experience success with interactions, their emotional attachment becomes deeper. As the emotional attachment increases, the likelihood that interactions will become more natural and habitual increase (MacDonald & Carroll, 1992). Parents can fulfill this interaction style by balancing turns with the child, be nondirective, engage in enjoyable activities, reduce stress, avoid negative judgments, and concentrate on keeping the interaction going (MacDonald & Carroll, 1992).

The ecological model establishes a model of communication that supports natural and therapeutic

relationships between parents and their child. The fundamentals of the ecological model are based on the theory that every interpersonal contact is an opportunity to actively engage in communicative contexts which support language learning (MacDonald & Carroll, 1992). It is by this theoretical approach that a number of other intervention models are developed from.

### **The Hanen Program**

One of the most well known parent training programs is the Hanen Program: It Takes Two to Talk. (“It takes two”, 2011) The program is designed for parents of children who present with expressive and/or receptive language delays. It Takes Two to Talk teaches parents how to functionally fill the role of their child’s primary language facilitator. This increases the child’s opportunity for everyday communication in natural settings and contexts. It Takes Two to Talk can be applied to a variety of age groups- specifically toddlers and preschool children with a language impairment; in addition, for children with cognitive and developmental delays under the age of 5 (“It takes two”, 2011).

The Hanen Centre has developed a mediator model approach, which provides SLPs with the training and tools needed to provide family-centered early language



intervention. The Hanen approach equips SLPs to expand their role from early language interventionist to adult educator and coach/counselor. In so doing, SLPs learn to help parents and other caregivers foster the child's communication development ("It takes two", 2011). The program involves three main objectives: 1) parent education, 2) early language intervention, and 3) social support. Parents are instructed about the developmental milestones of language, language acquisition, the importance of child's active participation in conversation, turn-taking interactions, setting realistic goals, enhancing responsiveness, and why their child communicates ("It takes two", 2011).

It Takes Two to Talk teaches parents to use language facilitation strategies across contexts that are functional to the child so that intervention is a natural process in the daily life of the child. For example, language facilitation would take place in the child's home setting instead of a foreign clinical setting. Each language facilitation strategy created by the SLP is generated to support the child's specific communication goals ("It takes two", 2011). The communication goals are constructed collaboratively by the SLP and parents. These goals are modified throughout the program depending on

child's progress/regress. It Takes Two to Talk also incorporates video feedback sessions with the parents. At this time parents and the SLP view pervious video recordings of the parents' application of the language facilitation strategies allowing parents to maintain or modify the interactive behavior with their child. ("It takes two", 2011).

Consistent with the transactional theory of development, the Hanen Program also implements responsive interaction strategies with intervention ("It takes two", 2011). Child-oriented behaviors are developed to encourage child to initiate interaction, thereby fostering joint attention around child's preferences (Yoder & Warren, 2002). Strategies for child-oriented behaviors include: maintain face-to-face body posture, follow the child's lead, and wait to listen for the child's response (Girolametto & Weitzman, 2006). Language-modeling strategies are implemented to increase child's language comprehension and verbal output. Strategies for language-modeling include: expanding on the child's utterances or topic preference by highlighting language (Girolametto & Weitzman, 2006).

Pennington, Thomson, James, Martin, and McNally (2009) conducted a study to investigate whether It Takes

Two to Talk—The Hanen Program is associated with change in interaction patterns between children who have motor disorders and their parents. The study involved 11 children between the ages one and three and their mothers. Pennington et al. (2009) used a quasi-experimental design in which data the interactions were compared across four data collection points. Data in the form of frequencies of moves and functions produced by participants was collected twice with each family prior to attending the Hanen training and twice after attending the Hanen training (Pennington et al., 2009).

The results indicated that the overall pattern of the mothers' conversational dominance remained after the program but changes occurred in "moves and pragmatic functions produced" (Pennington et al., 2009, p.1131) Pennington and colleagues concluded that the training enabled mothers to become more responsive and less directive with children gaining more control in the interaction (Pennington et al., 2009). Mothers did not reduce the frequency of turns and the amount of complexity of their language input following training. This result could indicate the mothers are already using a simple language with low MLUs or that the training received during *It Takes Two to Talk* was not preserved. It should

be noted that the research did not identify findings specific to the fathers' interactional patterns. The authors believe that the lack of difference in complexity of language was due to lack of need or lack of training effects on the language behavior (Pennington et al., 2009).

With over 35 years of service, the Hanen Program continues to create and research programs for speech-language pathologists and parents that promote the enhancement of language development for children with communication disorders ("It Takes Two", 2011). They have led the way in promoting parent inclusive intervention programs and continue to be a resource for helpful information regarding parent-child interaction.

### **The DIR Model: Floortime Intervention**

A recent parent intervention model that has been developed specifically for children with autism spectrum disorder is the Developmental, Individual Difference, Relationship-Based Model (DIR). Stanley I. Greenspan developed the DIR model which focuses on child-caregiver interactions for functional developmental capacities (Greenspan, 2006). The DIR model considers the family and child's individual profiles to create a specific intervention that is efficient for each child. The DIR

model adopts the philosophy that the child learns through interactive relationships (Weider & Greenspan, 2003).

The first component of the DIR model is the Developmental level, which is based on six functional emotional developmental milestones: 1) self-regulation and shared attention 2) attachment and relationships 3) two-way communication 4) social problem solving 5) create ideas to use in back and forth communication 6) combine meaningful ideas together at the symbolic level (Weider & Greenspan, 2003). These milestones all work together in the overall development of a child and assist their readiness for communication. The second component of the DIR model is the Individual processing differences which recognize the individualistic qualities of the child with respect to processing stimuli. For example, differences occur in how a child processes sensations and information with some children hypersensitive to stimuli and some hyposensitive to stimuli. This component allows the SLP to identify individual differences such as the child's over or under reactive states and also to identify their strengths/weaknesses in multimodal processing (Weider & Greenspan, 2006). Greenspan found that learning relationships should be tailored to the child's individual differences and should be at the child's functional

emotional developmental level resulting in the Relationship portion of the model (Weider & Greenspan, 2006). If the relationship is not at the child's functional emotional developmental level then milestones could be absent and delay the child's progress (Greenspan, 2008).

The DIR model is implemented through an intervention called "Floortime". Floortime is a "play-based interactive intervention approach that emphasizes individual differences, child-centered interests, and affective interactions between child and caregiver" (Simpson, 2005, p. 26) Floortime intervention allows the parent to take an active role in creating communication opportunities that are geared towards the child's individual plan (Simpson, 2005 p. 32). Floortime is a type of relationship-based intervention. Relationship-based interventions enable parents or caregivers to learn and use techniques that encourage children with a communication disorder to reach a higher level of functioning.

Floortime consists of five steps: 1) *observation*, 2) *approach*, 3) *following child's lead*, 4) *extend and play*, and 5) *closing circles of communication* (Simpson, 2005). During the first step, *observation*, the parent observes

the child to determine the best way to interact with the child. Such interactions include body language, tone of voice, facial expressions, etc. (Simpson, 2005 p. 33). During the second step, *approach*, the child is approached with a communication style that is attuned from the observation collected in the first step. The parent is then able to manipulate the interaction and capture the greatest interest level of the child (Simpson, 2005). The third step, *following the child's lead*, allows the child to create situations that are then supported by the parent. This interaction gives the child a sense of self-confidence and independence while still maintaining the connectedness of the parent (Simpson, 2005). The fourth step, *extend and play*, the parent uses supportive language towards the child's actions in play. This allows the parent to assist the child's interaction by expanding the child's communication and creating the opportunity for creative thinking (Simpson, 2005). During the final step, *closing circles of communication*, the child generates communication of his/her own that is directed towards the parent interaction. The parent, in turn, will continue the interaction which creates many circles of communication to be opened and closed. It is during this final step that

the child develops the understanding of two-way communication (Simpson, 2005).

The Floortime intervention has several identified strengths. It is inexpensive, requires no specific criterion, and can be implemented in any setting for children of any age, although it has been specifically targeted for children with autism spectrum disorder. Because the Floortime intervention is child driven it can apply to not only the parent but also any caregivers the child would encounter on any given day, such as extended family or school personnel. It is the family's responsibility to implement the Floortime intervention as a team approach and get as many people involved bettering their child's progress (Simpson, 2005).

Greenspan and Weider (2005) conducted a follow-up on sixteen children with autism spectrum disorder (ASD) who had been a part of a case review of the DIR/Floortime Model 10 to 15 years previously. All participants in this report were males between the ages of twelve and seventeen. The study attempted to answer the question of whether or not the children diagnosed with ASD could "go beyond expectations for high-functioning ASD and learn to be related, empathetic, creative, and reflective thinkers" (Greenspan 2005. p.3). The data found that the children



were able to obtain higher levels of empathy and that they not only maintained their gains from the previous study but made further progress in their ability to communicate. Using the Floortime Model the children were able to progress from their original deficits. This study does not represent all those individuals who have implemented the DIR/Floortime Model nor does it represent all children with autism spectrum disorder ("DIR/Floortime Model", 2008). This study does support the importance for early intervention programs to be implemented for children and their parents and the positive impact these programs can have on children's communication skills. More empirical evidence is needed to support the DIR/Floortime Model and its role in communication development children; however the research has shown the positive effects of relationship-based interventions.

### **ImPAACT Program**

Improving Partner Applications of Augmentative Communication Techniques, otherwise known as ImPAACT Program, was created specifically to teach parents how to facilitate the early language and communication skills of children who use an augmentative and alternative communication device (AAC) (Binger, Hasham, & Walsh, 2010).

The ImPAACT Program is based on the philosophy that although children who use AAC may grow up in a literacy-rich environment, these children tend to be less involved in interactions than children without disabilities (Binger et al., 2010). When parents interact with their children who use an AAC device, “transactional effects of the disability” often result in behaviors that do not facilitate expressive communication by the child (Binger et al., 2010, p.97). For example, parents tend to dominate the conversation and ask closed-ended questions which in turn provide few opportunities for communication to occur (Binger et al., 2010). Binger et al., (2010) also state that during these parent-child interactions the parents often focus on the AAC technology instead of the individual.

The ImPAACT Program follows eight steps to “implement a communication partner interaction strategy to evoke turns from children using AAC” (Binger et al., 2010, p.99). The programs steps begin by pretesting the parent(s) to identify their commitment to the targeted learning strategy. The parent is then given a detailed description of the interaction strategy and asked to demonstrate that strategy. The parent(s) are also provided with verbal practice of the interaction strategy. This is

done by practicing the interaction strategy in controlled contexts, such as role playing (Binger et al., 2010). The interaction strategy is then practiced in natural contexts, such as book reading. The parent then completes a posttest to secure their commitment of the strategy. The last step concludes by the parent demonstrating generalized use of the interaction strategy with their child (Binger et al., 2010). Each parent participating in the ImPAACT Program must attend four instructional sessions lasting an average of 2.2 hours and is typically completed over the course of a one to two week period (Binger et al., 2010).

Several studies have been conducted regarding the effectiveness of the ImPAACT Program. In the first of these studies, Binger et al., (2010) used the ImPAACT Program to train six educational assistances to improve interaction patterns with their students who used an augmentative communication device. Aside from parents, educational assistants are a preferred group to study because of the large amount of direct contact they utilize with the child using an AAC device on a daily basis (Binger et al., 2010). All six educational assistants successfully utilized techniques regarding interaction patterns with their students and all six students

demonstrated an increase in their turn-taking skills during storybook-reading activities (Binger et al., 2010). It should be noted that although the investigations with educational assistants utilizing the ImPAACT Program did not directly involve training the parents, the parents did participate in the studies by answering forced-choice questions regarding the behavior and communication of their child when watching video clips of the educational assistant and child interact while implementing strategies. A strength of the ImPAACT Program is its flexibility to provide training to any individual that demonstrates direct contact with a child who uses AAC. It is not limited to parents only (Binger et al., 2010).

Kent-Walsh and colleagues (2010) conducted two more investigations which used parents as the trainees for the ImPAACT Program. The first investigation used the ImPAACT Program to teach six parents to increase turn-taking in their child with a communication device. The second investigation used the ImPAACT Program to teach three parents how to increase the multisymbol message production of their child who used an augmentative communication device. Both investigations involving parents were successful in implementing the strategies demonstrated in the ImPAACT program; thereby increasing turn-taking and

multisymbol message production in their children (Binger et al., 2010).

The results of these studies show that the ImPAACT Program is an effective way to teach parents or communication partners how to promote language development and skills of a child who uses AAC. More research is needed in the future to further develop and modify the methods of the ImPAACT Program.

### **CONCLUSION**

The four intervention programs discussed share similarities and differences. The Hanen Program: *It Takes Two to Talk* and the ecological model do not identify a specific group of communication disordered children's parents to target. Their intervention methods are applicable for any parent/child combination. The DIR/Floortime Model is targeted for the parents of children who present with autism spectrum disorder and the ImPAACT Program is targeted for the parents of children who use an alternative and augmentative communication device.

They are all examples of relationship-based interventions. This means they all prioritize establishing meaningful connections between interactions to promote language learning. All of the intervention programs

operate 'within a relational context that has both interpersonal and inter-subjective dimensions" (Foley & Geller, 2009, p.6). The two dimensions represent: 1) the present, observable, physical experience, 2) the experience that occurs in the past that influences current relationships, such as feelings, emotions, and motivations.

The change in children's communication is of particular interest because the goal of speech-language pathology is for children to become independent communicators. Increased use of initiations and requests will give children more power over their environment and allow them to gain information and become active participants in conversation and in social, educational, and daily living activities. The parent intervention programs mentioned above are just the first steps toward creating an environment to facilitate child language development.

The field of speech-language pathology has made great advances towards the understanding and facilitation of programs geared towards parents whose children present with a communication disorder. However, the more knowledge obtained only shines light upon the need to further research. Families, children, and culture are by no means

homogenous; therefore, it is of the responsibility of the field speech-language pathology to pave the way toward developing future research that would test whether the effects of parent training programs have generalized effects on communication for parents and children.

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